

Operator Certification Exams May 8, 2003

Pursuant to IC 13-18-11 and 327 IAC 5-22, notice is hereby given that the Wastewater Treatment Plant Operator Certification Examinations of all industrial and municipal classes are scheduled for May 8, 2003. Exact time and location

will be provided in the letter that will be sent to applicants that are determined to be eligible to sit for the exam.

Your completed application and \$30 application fee (i.e., check made payable to "IDEM") must be postmarked by March

24, 2003, and mailed to: Cashier, Indiana Dept. of Environmental Management, 100 N. Senate Ave., P.O. Box 7060, Indianapolis, IN 46207-7060. Applications postmarked after March 24, 2003, will not be considered for this examination. ♣

Clarification on Phosphorus Reporting

NPDES permittees that have Total Phosphorus limits must report Total Phosphorus as P. The following information refers primarily to Hach brand instruments, but may apply to other brands of colorimeters and spectrophotometers. Check the chemical form that is the default for the readout of your instrument. If you are using a **direct readout** to determine phosphorus, the chemical form should show right in the display area.

BE AWARE OF THE DEFAULT FORM ON THE INSTRUMENT

Most Hach instruments and kits display phosphorus readings as mg/L PO_4^{3-} as the default readout. NPDES requires Total Phosphorus as mg/L P . The phosphorus content of PO_4^{3-} is approximately 1/3 of the concentration.

The same amount of color is measured in the test regardless of which form is used, but when this color is converted

to concentration, different conversions are used for the different forms. The conversion to mg/L PO_4^{3-} uses the weight of PO_4 , whereas the conversion to mg/L P uses the weight of P, which is approximately 1/3 the weight of PO_4 . Therefore, a value of 3 mg/L PO_4^{3-} is equivalent to a value of approximately 1 mg/L P . (Actual conversion: divide mg/L PO_4^{3-} by 3.07 to get result as mg/L P .)

The best way to determine Total Phosphorus is not by calculation, but by having the instrument set in the proper form for the readings.

To reiterate: Most Hach colorimeters and spectrophotometers display PO_4^{3-} as the default form of phosphorus, but concentrations for other forms can be read by making selections from the keypad or touch screen.

Be sure you are following the correct procedure for the program used on your instrument. If you have any questions about your measurements, call Barb McDowell at (800) 451-6027, press 0 and ask for ext. 3-6464 or (317) 233-6464 or bmcdowel@dem.state.in.us ♣

How to Calculate Average Pounds Per Day

When calculating the monthly average pounds per day of a pollutant discharge, you cannot simply multiply the month's average daily flow times the month's average daily pollutant concentration times 8.34. An average is, by definition, the sum of a set of terms divided by the number of terms.

To calculate the average loading, you must first calculate each day's pound values and then average those daily values. For more information, contact Don Daily, at (800) 451-6027, ext. 2-8636 or (317) 232-8636 or via e-mail at ddaily@dem.state.in.us. ♣



Important Notices

- IDEM will not offer the wastewater certification examination in November 2002. The next exam will be held on May 8, 2003. The exam application must be postmarked no later than March 24, 2003.
- A fall 2003 exam will not be offered.
- Natalie Green is Acting Continuing Education Coordinator and can be reached at (317) 233-0479.
- Debbie Dubenetzky is Acting Section Chief and can be reached at (317) 233-5747 ♣

The Water Environment Federation (WEF) Announces Wastewater Security Training

Wastewater utilities face unique challenges in evaluating and determining approaches for reducing their vulnerability to both intentional threats and natural disasters. WEF and the Association of Metropolitan Sewage Agencies (AMSA), in cooperation with the U.S. EPA, are working in partnership to provide POTWs with the necessary tools to initiate vulnerability assessments and develop or update emergency response plans. WEF's wastewater training will take a three-pronged approach: large system training, train-the-trainer, and Web-cast ("click, listen and learn").

The large system training will focus on more than 300 of the nation's largest POTWs using the AMSA Vulnerability Self Assessment Tool (VSAT Wastewater). The VSAT is designed to provide hands on, intuitive training for POTWs seeking to analyze their vulnerabilities and implement appropriate countermeasures.

Train-the-trainer will be offered in one-day sessions in each of U. S. EPA's ten regions. This will educate 150 "trainers" on the use and capabilities of the VSAT wastewater and the development and upgrade of emergency response plans. These individuals will then act as resources for utilities that need future training and assistance.

WEF, along with the American Public Works Association will offer part one of a two-part web-cast (Click, Listen, and Learn") on November 20, 2002, which will be open to all utilities. The second part of the web-cast will be given in March of 2003.

Registration is open for the first three Large Utility training workshops and the first two train-the-trainer workshops. Registration information for the Web-cast is available on WEF's Website at www.wef.org or APWA's Web site at www.apwa.net/education/CLL. ♣

Indiana's Spill Rule, 327 IAC 2-6.1

The Office of Land Quality's Emergency Response Section is available 24 hours a day to receive spill reports and provide response assistance. The primary role of the section is to facilitate spill response actions from persons experiencing spills to soil and water. The section may also request assistance from the United States Environmental Protection Agency during air release emergencies.

**Report Environmental
Emergencies
24 hours – By Phone Only
1-888-233-7745**

The complete text of 327 IAC 2-6.1 can be viewed at www.IN.gov/idem/sandr02. ♣

Monthly Reports of Operation (MROs)

If your Monthly Report of Operation (MRO) form doesn't have a place for you to certify its accuracy, it is outdated and not acceptable.

IDEM made the MRO forms available as Excel spreadsheets for the first time in 2002. Initially, only the Activated Sludge form was available, but other forms were added during the year. Some spreadsheets could be downloaded from IDEM's Web site, while others could only be obtained by contacting Don Daily at (800) 451-6027, ext. 2-8636 or (317) 232-8636 or via e-mail at ddaily@dem.state.in.us. Additional changes (corrections and improvements) to all the forms have been made during 2002. Updated MROs (whether you're using the hard copy version or the Excel spreadsheet) should be obtained from IDEM's Web site at the beginning of 2003 (unless IDEM has provided a new one directly to you). ♣

News Items

2003 Wastewater Operator Certification Manual

An updated 2003 Wastewater Operator Certification Manual should be available on the Web site in December 2002.

Replacement and Duplicate Certificates

According to the wastewater certification rule, 327 IAC 5-22-14, certified operators must obtain a duplicate certificate to display in the office of each wastewater treatment plant supervised, if the certified operator supervises more than one wastewater treatment plant. An operator who needs a replacement or duplicate certificate must submit a written request to the commissioner that includes the following information:

- 1) the class of the wastewater treatment operator;
- 2) the name and classification of the wastewater treatment plant to be operated;
- 3) the date of issuance of the original certificate, if known;
- 4) the certificate number.

In addition, please provide the name of each facility where you are designated as being in responsible charge. Once the initial certificate is issued when you pass the certification exam, we may only issue one duplicate certificate for the second facility, and so on, where you are in responsible charge. Extra certificates for display at home or elsewhere are not acceptable reasons for issuing duplicate certificates. Our office maintains a record of all replacement and duplicate certificates issued to operators.



Your Continuing Education Questions Answered

FAQ's About Wastewater Continuing Education Course



Approvals and Credit Hours

The following are frequently asked questions (FAQ's) about the current wastewater continuing education requirements, answers from IDEM staff, and references to where these requirements can be found in the wastewater certification rule.

The applicable requirements are found in the Indiana Administrative Code (IAC) – 327 IAC 5-22 – “Classification of Wastewater Treatment Plants: Examination and Certification of Operators.” The wastewater certification rule was revised in late 2000 and is now separate from the requirements for drinking water course approval and operator certification.

How do I get a training course approved for wastewater credit?

The course approval process required by 327 IAC 5-22-16 is relatively straightforward. Applications for training course approval, which can be found on IDEM's Website at www.in.gov/idem/water/compbr/oaps/wwcert.html, must be submitted by the training course provider (instructor or organization) at least sixty (60) days prior to the course.

A certified operator may also submit a complete training course approval application to IDEM prior to or within thirty (30) days of course completion along with written proof of attendance at the course.

To apply to have a training course approved, an applicant must complete an application for

training course approval, attach the course content information and the amount of time spent on each topic, and a bio or resume of the instructor and mail to:

Natalie Green,
Acting Wastewater Continuing
Education Coordinator
IDEM - Office of Water Quality
P.O. Box 6015
Indianapolis, Indiana 46206-6015

Can I reuse a course approval number for the same class in the future?

327 IAC 5-22-16(a)(1)(D) specifies that when applying for course approval, the application MUST contain the “...dates and locations where the course will be offered.”

YES – if the same class is offered on multiple dates and locations AND all the dates and corresponding locations are provided in the training course approval application. The course approval letter issued by IDEM will list the specific date(s) and location(s) submitted by the training course provider in the course approval application.

NO – if the training course provider plans to offer the course on a date/location NOT included in a previous training course application and not reflected in a previous course approval letter. In this case, a new training course application should be submitted and a new course approval number will be assigned and approval letter sent by IDEM.

What types of courses are acceptable for wastewater continuing education hours?

The rule requires that the course deal with one or more of the following:

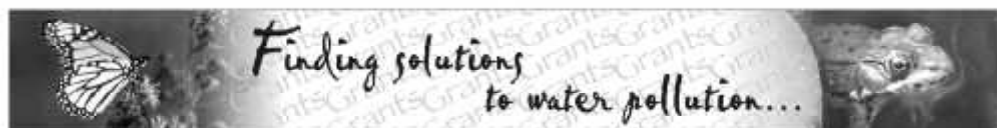
1. technical matters related directly to wastewater treatment (e.g., activated sludge, BOD testing, infrastructure security, etc.);
2. general matters related to the responsibilities of a certified operator (e.g., confined space entry, bloodborne pathogens, lockout/tagout, pollution prevention, etc.)

Note: 327 IAC 5-22-15(c) requires that a minimum of 70 percent of the required continuing education hours shall be obtained from the technical category of approved continuing education courses. No more than 30 percent of the required continuing education hours shall be obtained from non-technical subject matter.

Is there a list of pre-approved courses that I can obtain from IDEM?

NO - IDEM currently does not provide a periodic listing of pre-approved course names, dates and locations. However, if you contact our office, we can provide certified operators with a partial listing of trade associations and other course providers and their contact information. It is left up to the certified operators to contact these groups to inquire

Continued on page 4...



Continuing Education Questions

Continued from page 3...

about any upcoming wastewater continuing education courses. Many of these associations also maintain Web sites that include announcements of upcoming courses with prior or pending approval from IDEM for their specific courses.

When I complete a course, who should send my signed credit reporting form to IDEM so I'll receive credit for the course hours?

327 IAC 5-22-17(c)(2) requires the training course provider to submit the properly completed and signed credit reporting forms to IDEM within thirty (30) days of the conclusion of the continuing education course. IDEM recommends that the certified operator receive a copy of the signed credit reporting form from the course provider for their records.

Can I receive partial credit for a course if I arrive late or leave early?

NO - 327 IAC 5-22-16(e) states, "Partial credit shall not be

given to instructors, speakers, or students participating in less than a complete wastewater treatment continuing education course."

Can I receive continuing education credits for attending trade association conferences or workshops?

YES - there are several trade association conferences or workshops that may be eligible for receiving training course approval. In such instances, the training providers are urged to work with IDEM in advance to determine which sessions of the conference are pertinent to technical matters related to wastewater treatment or general matters related to the responsibilities of a certified operator. These providers must also develop a method of attendance monitoring to precisely verify which sessions of the conference the certified operator attended for credit. Once this has been done, IDEM can complete its review of the training course application and issue a course approval number for all or part of the conference. ♣

Accessing Our Web Site - It's Not That Hard!



It is becoming more and more important to become Internet proficient. The certification and continuing education home page is located at www.in.gov/idem/water/combr/oaps/wwcert.html. It contains five sections: certification information, continuing education information, exam prep materials, forms & applications, and Operator Examiner newsletter.

It's possible to download study guides, forms, booklets, newsletters, etc. or just browse the site or read directly from your computer. You can fill out your exam application, credit report form, etc. by typing directly into the computer. Then print out the form, sign it, and mail it to IDEM. This office is going to be moving more and more towards a paperless office. So now is the time to learn. If you have any questions about using the Web site, please call Christine Hightower, (800) 451-6027, ext. 2-8666 or (317) 232-8666 or via e-mail at chightow@dem.state.in.us. ♣

Continuing Education Requirements for Certified Wastewater Treatment Operators



327 IAC 5-22-14 and 15

PLEASE NOTE:

1. For each two-year renewal period, the following continuing education hours are required prior to certification renewal:

- Class A-SO and I-SP operators need a total of five contact hours.
- Class A, B, I and II operators need a total of 10 contact hours.
- Class C, D, III and IV operators need a total of 20 contact hours.
- At least 70 percent of the required hours must come from the technical category of continuing education courses that deal with technical matters related directly to wastewater treatment.
- No more than 30 percent of the required hours shall come from the nontechnical category of continuing education courses that deal with general matters related to the responsibilities of a certified operator.

2. Training providers must submit an application and receive continuing education course approval from IDEM prior to publicly offering a wastewater continuing education course. Please visit our Web site for a copy of the revised wastewater training course approval form. A certified operator may also submit a completed training course application to IDEM prior to or within thirty (30) days of course completion along with written proof of attendance at the course. Course approvals are date and location specific.

The course must deal with one or more of the following:

- technical matters related directly to wastewater treatment;
- general matters related to the responsibilities of a certified operator.

Please direct any questions or comments about the Wastewater Continuing Education Program to Natalie Green at (800) 451-6027, ext. 3-0479 or (317) 233-0479 or via e-mail at ngreen@dem.state.in.us. ♣



Back to Basics

The Maintenance Management System

The following excerpts are taken directly from the Water Environment Federation Operation of Municipal Wastewater Treatment Plants, fifth edition, 1996, USA, Chapter 3. They are meant to provide an overview of basic operation and maintenance concepts. While this text is only recommended reading for the Class III & IV certification exams, the material is extremely valuable to all operators.

The goals of the MMS are to keep all equipment, machinery, and every structure in good operating condition, and after reaching this goal, to make the most of every maintenance dollar spent. This includes specifically programmed maintenance procedures and periodic review of historical maintenance and inspection records, both targeted on these goals.

According to Westerkamp (1985) and Heintzelman (1976), a complete maintenance management system (MMS) should include the following:

1) Organization and staffing

The "organization" function includes the two main activities of:

- Assigning responsibilities for work activities so that the plant's mission will be achieved.
- Delegating the authority necessary to accomplish work activities. Staffing considerations include recruiting aggressively with competitive salaries, contracting out the maintenance work, and establishing an apprenticeship program to increase the plant's work force through collaboration with local community colleges, contract training, trade or vocational schools.

2) Training

Good Operation & Maintenance starts with well trained employees.

- Develop and document standard operating procedures (SOPs) for process control, equipment operation and maintenance (O&M), laboratory procedures, and data recording.
- Keep a checklist of items to be learned and have the trainer and trainee set a reasonable schedule to learn them. Each item must be initialed and dated by the trainer and trainee as it is learned.

- Organize a new employee orientation to provide an overview of the whole operation, not just the employee's role.
- Emphasize safety elements.
- Teach employees where to go for help.
- Use the standard training method of tell, show, and do.

3) Preventive maintenance and maintenance record system

Preventive maintenance should be a high priority. Each manufacturer provides preventive maintenance guidelines for the lifetime of their equipment. Preventive maintenance can not only extend the life of your equipment; it can help you plan your budget. A planned maintenance program must be utilized for all equipment in the plant to ensure the reliability of the equipment. Both computerized systems and simple card tracking systems are available.

4) Spare parts, inventory, and tool control

Either a card or computerized system must be set-up to control inventory items and tools. A rural plant, a plant with little storage space, or a plant without nearby supply houses must take this into consideration when determining inventory levels for parts, tools and materials. Use a distinct number for each type of part, tool or material to arrange items in the store-room. Then track the items as they are withdrawn and returned on the card or computer system. Stock levels and usage history can be used to determine lead time required to order and receive replacements.

5) Computerized data system

A variety of maintenance management software is available. Look at your plant's needs and your operators' skill level before purchasing software. If possible, visit other plants similar to yours that are using the program, try it out and discuss the program's good and bad points with the operators. Remember that you will probably be living with this software for a long time.

6) Work orders, planning and scheduling

"Planning" typically involves the following program elements:

- Assignment of one person to manage the program;

- Master list of all equipment and structures included in the system;
- Numbering system for all equipment;
- Preventive maintenance schedules;
- Communications system that keeps the system functioning smoothly by governing routing of maintenance requests;
- Inventory system that ensures adequate stocks of parts, tools, and supplies to meet operating needs and make timely repairs.

7) Management controls for budgets and costs

The budget process can help determine a wastewater treatment plant's effectiveness. The O&M budget is prepared using the format of the controlling agency. Budget preparation requires planning that forces management to identify the needs of the utility, set priorities for meeting those needs, and allocate the available funds among competing needs.

8) Engineering support

Engineers, while generally on staff in larger facilities, may act as consultants to smaller facilities. Their role may involve the planning, designing, and administering of construction contracts for major improvements. However, the operator is the staff member experienced in the maintenance and operation of the plant and should be involved in all phases of development – especially on existing facilities where they have expert knowledge in the day-to-day running of the plant. Christine Hightower, (800) 451-6027, ext. 2-8666 or (317) 232-8666 or via e-mail at chightow@dem.state.in.us. ♦

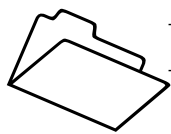
Alert!



The U.S. Public Health Service recommends these immunizations for wastewater treatment plant operators (WEF MOP 11 v2, p.92)

- Hepatitis A ➤ Mumps
- Hepatitis B ➤ Pneumococcal disease
- Influenza ➤ Rubella
- Measles ➤ Tetanus & Diphtheria (TD) routine

"Water Environment Federation Operation of Municipal Wastewater Treatment Plants, fifth edition, 1996, USA, page 92." Christine Hightower, (800) 451-6027, ext. 2-8666 or (317) 232-8666 or via e-mail at chightow@dem.state.in.us ♦



Results of the May 2002 Wastewater Certification Exam

The certification examination was administered on May 9, 2002, at three locations: Indianapolis, Elkhart and Jasper. A total of 255 people took the exams. The overall passing rate for all classes was 55 percent. Exams were graded electronically, then, exams with scores of 67, 68 and 69 percent were re-graded by hand.

Coming this November!
(11/2002)

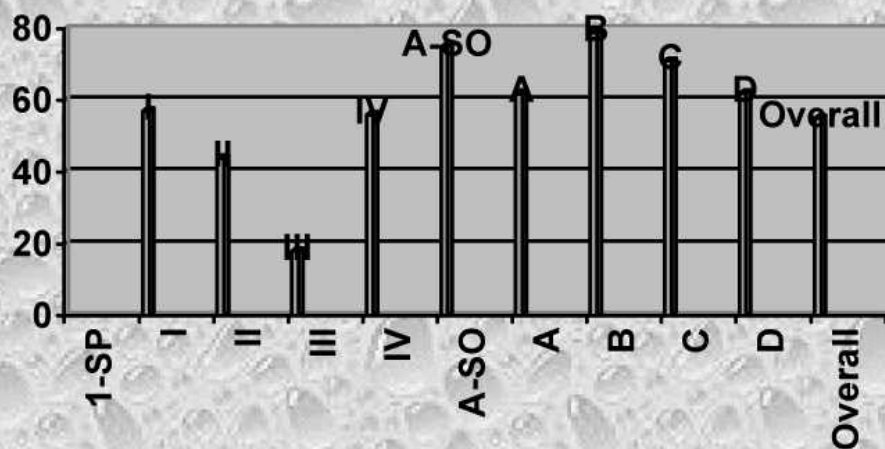
New QA/QC Manual on the Horizon for Wastewater Laboratories

IDEM and the IWPCA Laboratory Committee are producing a much needed new QA/QC manual. And, while the manual will be geared toward smaller wastewater laboratories (Class I and II), the basic information contained in it won't change regardless of the size of the lab. Some of the topics covered will be: structure of a basic QA/QC program, contents of a QA/QC program, definitions, basic testing methods to meet the NPDES requirement, and examples of benchsheets. The manual will be presented at the IWPCA Annual Conference in November and will be available to wastewater laboratories for use after that time.

Barb McDowell at (800) 451-6027, ext. 3-6464 or (317) 233-6464 or via e-mail at

bmcdowel@dem.state.in.us ♣

PASSING RATES



Class I-SP	no examinees
Class I	57%
Class II	44%
Class III	18%
Class IV	56%

Class A-SO	75%
Class A	62%
Class B	79%
Class C	71%
Class D	62%

TOP SCORERS

Municipal

I-SP	No Examinees
I	Bryan M. Gooldy
II	Becky S. Howell
III	Brian Peters
IV	Steve J. Swoveland

Industrial

A-SO	Robert F. Zeiler
A	Paul A. Pfister
B	Hollie M. Bowling
C	Terrance L. Claus
D	Steve J. Swoveland

Important Dates

Next Scheduled Wastewater Exam:
May 8, 2003 (No Fall 2003 Exam)

Postmark Deadline for
Exam Applications:
March 24, 2003

Last Day to Review the
May 9, 2002 Exam:
February 8, 2003

State Requirements for Scheduling Wastewater Certification Exams

State law requires IDEM to offer the wastewater certification exam at least annually. IDEM offered an exam on May 9, 2002, and the next exam date is scheduled on May 8, 2003. Available staffing and resources was a major factor in reducing from two exams to one exam in 2002 and 2003; however, we will continue to work to be able to offer additional exams in future years. Debbie Dubenetzy, (800) 451-6027, ext. 3-5747 or (317) 233-5747 or via e-mail at ddubenet@dem.state.in.us ♣

Wastewater Certification

Staff Contacts

Have you ever tried to reach just the right person in wastewater certification to answer your question? This page will tell you exactly who to call, email or write.

Christine Hightower

Wastewater Certification Officer
(317) 232-8666

chightow@dem.state.in.us

- Certification Exams
- Application for the May 8, 2003 Exam
- Provisional Applications
- Reciprocity Applications
- Operator-in-Training Applications

Natalie Green

Acting Continuing Education Coordinator

(317) 233-0479

ngreen@dem.state.in.us

- Course Approvals
- License Renewals
- Contact Hours

Barbara McDowell

(317) 233-6464

bmcadowel@dem.state.in.us

- Study materials for the May 8, 2003 exam (available December 1, 2002)
- Exam Reviews for the May 9, 2002 exam

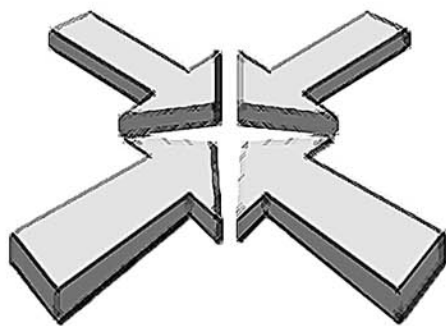
Dyian Jones

Administrative Assistant

(317) 233-0419

djones@dem.state.in.us

- General Information
- Contact Hours



Please visit the Certification & Continuing Education home page at:
www.IN.gov/idem/water/compbr/oaps/wwcert.html

U. S. EPA Operations and Maintenance Award Winner—Evansville Eastside Treatment Plant

The U.S. EPA Operations and Maintenance (O&M) Excellence Awards Program was created by Section 501(e) of the Clean Water Act. It authorized the U. S. EPA to develop and implement a recognition program for municipalities and industries that demonstrate outstanding technological achievements or innovative processes, methods or devices in their waste treatment and pollution abatement programs.

In 1985, the U. S. EPA initiated the O&M Awards Program. The objectives of the program are to:

- Sensitize the public about the contributions that publicly owned wastewater treatment facilities make to clean water;
- Encourage public support for effective O&M, sewer use and user charge systems; and
- Recognize communities that continue to meet permit requirements from outstanding O&M practices.

The program offers national and regional first and second place awards in small, medium, large in both secondary and advanced facilities, small and large non-discharging facilities and a Most Improved Plant category.

Each year, IDEM selects Indiana candidates to represent our state in the U. S. EPA Region V program. Winners are then chosen by a committee at Region V. The submissions from the first place winners in each category from all of the regional programs are then sent to U. S. EPA Headquarters in Washington for the national program.

The candidate for large secondary from Indiana, the **Evansville Eastside POTW**, was a **first place regional winner and a second place national winner**. Among the operating and maintenance programs considered in the Evansville facility's award were its pollutant removal; performance as a contract-operated facility; safety program, which has earned seven safety awards in the past few years; equipment maintenance program, which is tied to a five-year capital management plan; in-house capital improvement projects, which reduced expenses; and laboratory management program, which has the industrial pretreatment program staff located in the same facility. Congratulations!! Barb McDowell at (800) 451-6027, ext. 3-6464 or (317) 233-6464 or via e-mail at bmcdowel@dem.state.in.us. ♠

[www.in.gov/idem/water/
compr/oaps/wwcert.html](http://www.in.gov/idem/water/compr/oaps/wwcert.html)

Visit IDEM's Web site for
certification and continuing
education information,
forms and applications.

Indiana Department of Environmental Management
Office of Water Quality
Operator Assistance and Pretreatment Section
P. O. Box 6015, Indianapolis, IN 46206-6015